

1960

ANNUAL REPORT

of the

Medical Officer of Health

of the

Urban Sanitary Authority

of

EAST DEREHAM

Norfolk





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STAFF

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Surveyor and Public Health Inspector

C.McD. O'DONNELL, M.B.E., M.A.P.H.I.

Waterworks Superintendent

R.R. TYE

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EAST DERHAM URBAN DISTRICT COUNCIL

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH FOR 1960.

Mr. Chairman, Mrs. Wright and Gentlemen,

I have the honour to submit my Annual Report for the year 1960.

The estimated mid year population was 6,990, an increase of 140 over that of the preceeding year.

109 live births, of which 6 were illegitimate, were registered during the year and there were 88 deaths from all causes.

The birth rate, 15.59, was appreciably higher than last year and again slightly lower than the England and Wales rate of 17.1. The illegitimate live births accounted for 5.5% of the total live births.

There were 3 still births during the year, all legitimate, giving a still birth rate of 27 (per 1,000 live and still births). The England and Wales rate was 19.7.

The births comparability factor, the ratio of the national to the local fertility index, was 1.00.

The number of deaths, 88, was higher than the average for the past 10 years, and of course much higher than last year's low record of 57. This gave a death rate of 12.73. The England and Wales rate was 11.5.

The deaths comparability factor was 0.87.

There were 5 infant deaths, all legitimate and all occurring under 1 week of age. In each case the cause of death was recorded as prematurity. As a result the infant mortality rate was very high, 45.9, compared with the England and Wales rate of 21.5.

Pneumonia was the only infectious disease to cause any deaths - 10 this year as compared with 4 last year.

INFECTIOUS DISEASES

During the year 430 cases of infectious disease were notified and, for this large number, 3 major outbreaks were responsible, viz. sonne dysentery in the first half of the year and measles and whooping cough in the second half.

Sonne Dysentery. A total number of 123 cases of this disease was notified; nevertheless I am certain that this does not represent the total incidence of the disease.

In general sonne dysentery is mild in character - it is also highly infectious as is seen by the largish number of mothers who contracted the disease from one or other of their children. Previous experience has shown that the more one looks for the disease the more cases will be brought to notice.

The outbreak began in January 1960. At that time it was common knowledge that there had been a considerable amount of dysentery in Norwich at the end of 1959. Quite a large number of residents of Dereham travel daily to and from Norwich in the course of their work and vice versa.

The diarrhoea of sonne dysentery can be very slight, so much so that mothers may not pay attention to a single loose motion and do not consider it worth while to call in the family doctor. Contrary to what some believe it is not an essential feature of the disease to be able to see blood and mucus in the motion with the naked eye. When the diarrhoea is so slight the child is not kept away from school and, being a carrier, can transmit the infection to other children.

Experience during the year has again confirmed the need for mothers to beware of "simple" diarrhoea and equally for general practitioners to notify promptly cases of dysentery and to make full use of the laboratory services for correct diagnosis especially at the begining of an outbreak.

These simple procedures are very necessary if an outbreak of sonne dysentery is to be brought quickly under control.

Some believe that Health Education is the prerogative of the Medical Officer of Health. Nothing could be further from the truth and, in the case of sonne dysentery, the initial education ought to be undertaken by the general practitioner called in to treat the case.

The outbreak centred round London Road School for some reason which I could never understand. The kitchen staff certainly were not to blame and, so far as could be seen, all preventive measures were rigidly enforced even to having the toilets cleaned with disinfectant twice during the day. The Easter holiday break made little impression on the course of the outbreak.

The exclusion of cases from school was highly unpopular and eventually resulted in the concealment of the disease.

It will be recalled that the summer of 1960 was an exceptionally good one for the most part. "Carrier" children could hardly be blamed for going out to play with others. Fortunately the domestic fly did not appear to play any part in the spread of the disease which suddenly died out at the end of August.

Widespread use was made of the pamphlet on "Dysentery" issued by the Central Council for Health Education. The Education Committee of the Norfolk County Council issued instructions to Head Teachers on the subject.

Certain important problems arise in an outbreak of dysentery.

- (1) The question of school closure.
- (2) The lack of any known drug which will kill the germ and so get rid of the carrier state. This is the crux of the problem.
- (3) The action to be taken when the family is going away from home on holiday.
- (4) The loss of education by children who, being carriers, are required to stay away from school.
- (5) The action to be taken where dysentery occurs in the families of food handlers, and in particular the licencees of public houses.

Treatment is relatively unimportant in some dysentery - the carrier state is extremely important.

Following on an article in the British Medical Journal on the "Treatment of Dysentery" I wrote a letter to the Journal on the above problems in the hope that some discussion would be initiated. I regret to inform you that the only result was a visit from a commercial traveller whose firm was interested in the problem of dysentery. In the circumstances this visit was appreciated.

In the prevention of dysentery much emphasis is laid on the washing of hands and very rightly so. I would suggest that cold water in the winter months is hardly likely to commend itself to a child or adult who has had dysentery. The provision of hot water in all schools for hand washing is one of the improvements which are long overdue.

I consider also that, in the home, the provision of hot water in W.C's which are separate from the bathroom, is another worth while provision. You will recall that during the year this Council did pass a resolution making such provision in all future Council houses. Consideration should also be given to this aspect when the older Council houses are modernised.

This suggestion could also be considered in the plans submitted by private builders.

Measles. The disease occurs on a large scale every other year on the average and accounts for the 191 cases notified.

Whooping Cough. 103 cases were notified and this easily surpasses any other year. 35 cases occurred under the age of 5 and of these 19 were immunised against whooping cough. This figure may seem disturbing and, although some of the cases were more severe than in previous years I have not come across a mother who was anti whooping cough immunisation.

Food Poisoning. Two cases were notified, both *Salmonella typhimurium* infection. The first case occurred in February when dysentery was prevalent and was originally notified as dysentery.

The second case occurred in August and by a curious coincidence was a sister of the first case. Unfortunately the brother would not cooperate by submitting further specimens.

The following tables give (a) the total notifications with the corresponding figures for the previous three years, and (b) the age distribution.

Disease	1960	1959	1958	1957
Scarlet fever	3	5	3	4
Erysipelas	1	1	-	1
Measles	191	10	33	273
Whooping cough	103	-	2	46
Pneumonia	2	4	8	17

Poliomyelitis	-	-	-	2
Meningitis	1	-	-	-
Dysentery	123	1	-	1
Food Poisoning	2	1	-	2
Puerperal pyrexia	-	-	2	1
Infectious Hepatitis	4	1	-	-
Total	430	23	48	347

Disease	Age Groups												
	0-	1-	2-	3-	4-	5-	10-	15-	25-	35-	45-	55-	65-
Scarlet fever				1	2								
Erysipelas												1	
Pneumonia	1											1	
Meningitis							1						
Measles	1	5	8	19	20	115	21	2					
Whooping cough	4	8	5	7	11	61	1		3	1	1	1	
Dysentery	2	2	3	8	9	58	12	4	14	8		1	2
Food Poisoning										1	1		
Infectious Hepatitis						2	1				1		
Total	8	15	16	34	41	238	36	6	17	10	3	4	2

TUBERCULOSIS

During the year 4 cases were added to the register of which 3 were inward transfers, the other case being non-pulmonary.

Information has been received that the Miniature Mass Radiography Unit will be visiting Dereham at the end of February 1961, and it is hoped that the adolescent and adult population will make full use of this opportunity. The unit plays a very important role in the diagnosis of early tuberculosis, unsuspected by the individuals themselves, and therefore in the early treatment and the prevention of spread of the disease.

The distribution of the four cases by age and sex is:-

	Pulmonary		Non-Pulmonary	
	M.	F.	M.	F.
15-25	-	-	1	-
25-35	-	1(a)	-	-
55-65	2(a)	-	-	-
	2(a)	1(a)	1	-

(a) denotes inward transfers.

No deaths were due to tuberculosis this year.

The numbers remaining on the register were :-

	Pulmonary			Non-Pulmonary			Grand
	M.	F.	Total	M.	F.	Total	Total
31.12.59	19	12	31	3	4	7	38
31.12.60	19	11	30	2	3	5	35

The statistics for the County of Norfolk per 1,000 of the population in 1960 are given below with the data for East Dereham in brackets for purposes of comparison.

Formal notifications.

<u>Pulmonary</u>		<u>Case Rate</u>	<u>Non-Pulmonary</u>		<u>Case Rate</u>
94	(1)	0.24 (0.15)	29	(1)	0.74 (0.15)

Mortality figures for the same period were :-

<u>Pulmonary</u>		<u>Case Rate</u>	<u>Non-Pulmonary</u>		<u>Case Rate</u>
11	(0)	0.028 (0)	1	(0)	0.0025 (0)

B.C.G. Vaccination.

It was possible to advance this programme to the winter term and some schools therefore had the opportunity to participate twice in the scheme. This accounts for the larger volume of work carried out which is summarised as under :-

(1) Number who refused skin testing	144
(2) Number skin tested	458
(3) Number found positive	84
(4) Number found negative	374
(5) Number vaccinated	359

The percentage of children giving a positive skin test was 19, whereas the figure for the County of Norfolk was 16.5.

When the scheme was begun in this district in 1955, 45% of the children gave a positive skin test. In subsequent years the figure fell steadily with the exception of 1959 which showed a slight increase. It is expected that the rate will continue to fall.

Cancer of the Lung.

Four deaths were ascribed to this cause during the year - all males whose ages were 51, 57, 64 and 69 respectively.

This number can not be viewed with complacency as only in one year, since separate records for this cause of deaths were begun 10 years ago, has a similar number been recorded. It may be significant that your neighbouring district has also had a high mortality from lung cancer this year.

Causes of Death.

The causes of death are given in the following table supplied by the Registrar General :-

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Malignant neoplasm, stomach	1	-	1
Malignant neoplasm, lung, bronchus	3	-	3
Malignant neoplasm, breast	-	1	1
Malignant neoplasm, uterus	-	2	2
Other malignant & lymphatic neoplasms	5	2	7
Vascular lesions of nervous system	7	7	14
Coronary disease, angina	8	7	15
Other heart disease	9	4	13
Other circulatory disease	1	3	4
Pneumonia	5	5	10
Bronchitis	1	2	3
Ulcer of stomach and duodenum	2	1	3
Nephritis and nephrosis	1	-	1
Hyperplasia of prostate	1	-	1
Congenital malformations	1	-	1
Other defined and ill defined diseases	1	4	5
Motor vehicle accidents	1	-	1
All other accidents	-	2	2
Suicide	1	-	1
	<u>48</u>	<u>40</u>	<u>88</u>

GENERAL STATISTICS

Area (in acres)	5,313
Population (estimated mid 1960)	6,990
Rateable Value	£76,130
Estimated product of penny rate	£298

MEDICAL STATISTICS

Extracts from vital statistics for the year relating to the net births and deaths after correction for inward and outward transfers as furnished by the Registrar General :-

	East Dereham 1960	England & Wales 1959	England & Wales 1960
Males. Females Total			
<u>LIVE BIRTHS</u>			
Legitimate	50	53	103
Illegitimate	5	1	6
	<u>55</u>	<u>54</u>	<u>109</u>
Birth rate per 1,000 of the estimated resident population.	15.59	13.50	17.1

STILL BIRTHS

Legitimate	2	1	3
Illegitimate	-	-	-
	<u>2</u>	<u>1</u>	<u>3</u>

Still birth rate per 1,000 of the total
live and still births 27 0 19.7

DEATHS (All ages)

48 40 88

Crude death rate per 1,000 of the estimated
resident population 12.73 8.32 11.5

INFANT DEATHS (Under 1 year)

Legitimate	2	3	5
Illegitimate	-	-	-
	<u>2</u>	<u>3</u>	<u>5</u>

Infant Mortality rate per 1,000 live births 45.9 21.5 21.5

Immunisation Schemes.

The following immunisations were carried out during the year by general practitioners and the Assistant County Medical Officer from records received in my office.

	<u>Diphtheria Alone</u>							
	Under 1	1-	2-	3-	4-	5-9	10-14	Total
Primary	-	-	-	-	1	16	4	21
Reinforcing	-	-	-	-	-	104	104	<u>208</u>
								Total <u>229</u>

	<u>Diphtheria & Whooping Cough</u>							
	Under 1	1-	2-	3-	4-	5-9	10-14	Total
Primary	10	-	-	-	-	-	-	10
Reinforcing	-	-	-	-	1	3	-	<u>4</u>
								Total <u>14</u>

	<u>Diphtheria & Tetanus</u>							
	Under 1	1-	2-	3-	4-	5-9	10-14	Total
Primary	-	-	-	-	-	9	-	9

	<u>Diphtheria, Whooping Cough & Tetanus</u>							
	Under 1	1-	2-	3-	4-	5-9	10-14	Total
Primary	74	11	1	-	3	2	-	91
Reinforcing	-	-	-	-	-	-	1	<u>1</u>
								Total <u>92</u>

In addition one 3 year old child was immunised against whooping cough.

Towards the end of the year an outbreak of measles and whooping cough interfered with the immunisation programme to a considerable extent.

Tetanus

Immunisation against tetanus is now offered to school children and the response has been very satisfactory. Excluding the injections referred to above 229 children under 15, and 121 courses in those aged 15 years and over, and 2 reinforcing courses, were completed.

Personal Records.

Children receive so many different types of injections nowadays that mothers have frequently a very hazy knowledge of the injections given to their children. The wider use of the personal record of protective inoculations would help considerably if only mothers would ensure the record is kept up to date.

The immunisation state of the children can be regarded as reasonably satisfactory.

This does not mean that the position can not be further improved and mothers with young children need constantly to be reminded of their responsibilities in this connection.

Diphtheria will cease to exist in a highly protected community. The fact that several outbreaks occurred in different parts of the country in the last quarter of 1960 and again in London in the first quarter of 1961 should serve as a potent reminder to all who are interested in the well being of the community.

Poliomyelitis Vaccination

The demand for vaccination has naturally fallen off during the year.

By the 31st December, 1960, the following groups had completed a course of three injections.

(1) Children born in the year 1956-60	879
(2) Children born in the year 1943-55	3,675
(3) Young persons born in the year 1933-42	1,333
(4) Persons born before 1933 and not passed 40	246
(5) Others	25
Total	<u>6,158</u>

Smallpox Vaccinations

It is gratifying to record the continued high rate of vaccinations in infants as shown in the following table.

	Under 1	1-	2-4	5-14	15 & Over	Total
Primary	65	2	1	1	4	73
Revaccination	-	-	-	-	12	12
					Total	<u>85</u>

NATIONAL HEALTH SERVICE ACT, 1946

Local Health Services under Part 111

Domestic Help Service

52 occasional home helps were employed in the district during the year and 24 cases were assisted in East Dereham.

Mental Health - Administration.

Mr. A. Boothman, Welfare Officer, remained in charge.

The Mental Health Act of 1959 came into operation on 1st November, 1960, and alters the method of admission of patients to hospital.

During the year patients were dealt with under the old provisions as well as the new. Briefly the 1959 Act provides for admission as follows:-

Informal - the procedure is the same as that for admission to any hospital and in fact was being implemented for several months before the passing of the Act.

Section 25. For observation for a period of 28 days.

Section 29. Emergency admission for 3 days.

Section 26. Treatment admission; the period is not stipulated and is subject to review.

Applications for admission can be made by a relative or by the Mental Welfare Officer and application must be supported by a medical recommendation. Under one section or another 19 patients were admitted to hospital during the year.

Mental Defectives.

Under the 1959 Act no provision is made for "Statutory Supervision", and the term "mental defective" has been replaced by the terms "subnormal person" - formerly feeble minded person, and "severely subnormal person" - formerly imbeciles and idiots. These persons will continue to receive friendly guidance and advice, which might be termed "friendly oversight" and provision for attending Training Centres and Social Centres, and receiving home teaching, where appropriate, will continue.

Receiving "friendly oversight"	10
Attending "Training Centres"	3
Attending "Industrial Training Centres"	1

Owing to the prolonged illness of the Home Teacher, the social centre held at Dereham has been suspended for several months. The activities of the centre will be resumed when a new teacher is appointed.

Old Peoples Welfare.

The two old people's clubs in Dereham and Toftwood continue to function and expand.

Seven elderly persons were admitted to Part 111 accommodation, two of these being to the new 'St. Nicholas House' established in Dereham.

No cases were dealt with under Section 47 of the National Assistance Act 1948.

FACTORIES ACTS, 1937 to 1959

Part 1 of the Act

1. Inspection for purposes of provisions as to health (including inspections made by Public Health Inspectors).

	Number on Register	Inspections	Number of written notices.	Occupiers Prosecuted
(i) Factories in which Sections 1,2,3,4 and 6 are to be enforced by Local Authorities	6	30	-	-
(ii) Factories not included in (i) in which Section 7 is enforced by Local Authority	46	52	-	-
(iii) Other premises in which Section 7 is enforced by the Local Authority (excluding out- workers premises).	7	40	-	-
Total	59	122	-	-

2. Cases in which Defects were found.

	Found.	Remedied.	Referred to H.M. Inspector.	by H.M. Inspector.	No. of cases in which prosecutions Instituted.
Want of cleanliness	1	1	-	-	-
Overcrowding	-	-	-	-	-
Unreasonable temperature	-	-	-	-	-
Inadequate ventilation	1	proceeding	-	-	-
Ineffective drainage of floors	-	-	-	-	-
Sanitary Conveniences :					
(a) Insufficient	-	-	-	-	-
(b) Unsuitable or defective	1	1	-	-	-

(c) not separate	-	-	-	-	-
for sexes	-	-	-	-	-
Other offences against	-	-	-	-	-
the Act.	-	-	-	-	-
	3	2	-	-	-

Of the nineteen factories subject to Section 34 of the 1937 Act (Fire Escapes) sixteen certificates had been issued and three were under investigation when administration of this section of the Act was taken over by the County Fire Authority.

No prosecutions were instituted under the Acts.

HOUSING

The number of houses erected in 1960 was :-

- | | | |
|--------------------------|---|----|
| 1. By the Council | - | 11 |
| 2. By private enterprise | - | 53 |

This brings the number of houses built by the Council in the post-war period up to 420.

Closing orders were made on 7 houses bringing the total dealt with in this manner to 72.

The number of applicants on the waiting list at the end of the year was 121.

SANITARY CIRCUMSTANCES OF AREA

WATER SUPPLY

A sample of water taken from a shallow well was unfit for human consumption. The house supplied by it has been closed.

SEWAGE DISPOSAL

Insufficient sludge storage capacity and drying bed area coupled with a wet summer made the running of the works difficult and expensive. Undigested sludge had to be transported in tankers to disposal areas and complete drying of sludge was virtually impossible. These difficulties will be solved during the year 1961 when, it is expected, the major portion of stage II of the works extension will be completed.

Complaints of smell nuisance in the North Western part of the town were said to have been caused by the disposal works which is about half a mile away. The suggestion was acceptable in view of the difficulties in operating the works and much time was lost in disproving it before other causes were investigated. It was eventually discovered that the smells seemed to coincide with the times of discharging steeps from local maltings and when their balancing tanks were cleaned it disappeared. The cleansing of the tanks has now been taken over by the Local Authority and the matter appears to be solved except for one tank which is subject to

storm overflows. This is being investigated by the Consultant Engineers who designed them.

A survey of night soil collection in the district showed that 306 properties were on pail closets, and at the end of the year, the number was reduced by twenty six. The Council considered the rate of connections to be too slow, particularly in view of the free connections to the curtilage of properties. It was decided, on the advice of the Clerk of the Council that they were empowered to cease collection, to discontinue the service from the 31st October 1961. I was somewhat disturbed as to the public health implications of such a resolution and said so. But one must also accept the necessity of speeding up house connections and indeed ending night soil collection.

It is interesting to note that the estimated cost of collection for 1961 is approximately one third the cost before the Toftwood sewer was laid.

PUBLIC CLEANSING

House refuse is collected weekly in the central area and monthly in the outlying districts.

There were many complaints of flies from residents in the area of the refuse tip. The tip was started ten years ago in an old gravel pit which was then reasonably distant from houses. Sporadic housing development nearer the tip has occurred since and this naturally enough, has been affected by flies. While it must be admitted that controlled tipping in the true sense has not been practised by the Council it appears to be bad planning to permit development near an operational refuse tip. Otherwise these pits, which disfigure the countryside, will never be filled in.

The Council are considering acquiring another disused gravel pit and it is to be hoped that the Council and Town Planning Authority will play their part in preventing a fly nuisance in the area surrounding it.

SMOKE NUISANCE

Dereham is particularly fortunate in this respect because its industrialists realise it is uneconomic and objectionable to produce smoke. The town cannot however be said to be free of smoke when one sees heavy transport vehicles passing through emitting a cloud of black smoke. I should like to see more control in this direction.

CAMPING AND CARAVAN SITES

There are no camping sites in the district. Five individual caravans have been licensed to stand in private gardens and one site for six caravans.

The Council have considered the Caravan Sites and Control of Development Act, 1960, and are likely to adopt the Model Standards suggested by the Ministry of Housing and Local Government with minor alterations.

SANITARY INSPECTIONS OF THE AREA

The following table summarises inspections during the year :-

<u>Description</u>	<u>Inspections</u>	<u>Informal Notices</u>	<u>Statutory Notices</u>
Drainage.	250	-	-
Factories, workshops & bakehouses.	94	-	-
Slaughterhouses and butchers shops.	230	-	-
Food shops.	72	-	-
Cowsheds, dairies, etc.	10	-	-
Restaurants and Hotels.	18	-	-
Verminous and filthy premises.	1	-	-
Housing.	50	4	9
Nuisances.	50	2	-
Infectious diseases.	1	-	-
Rats and mice.	110	-	-
Refuse collection	12	-	-
Nightsoil	350	-	-
Water supply	5	1	-

DISINFESTATION AND DISINFECTION

One case requiring disinfestation was attended to.

MILK SUPPLY

Three dealers were licensed to sell Tuberculin Tested and Pasteurised milk and two for Tuberculin Tested, Pasteurised and Sterilised milk under the Raw Milk and Milk Designation Regulations of 1949. These licences will in future be issued by the County Council as Food and Drugs Authority under the Milk (Special Designation) Regulations 1960.

ICE CREAM

Three new licences were approved. Of the twelve samples taken only one was below standard and on re-sampling it was reported Grade I.

FOOD INSPECTION AND CONDEMNATION

Food premises were inspected under the Food Hygiene Regulations and in all cases the owners readily co-operated when requested to carry out works or improvements to comply with the standards.

A survey of catering establishments carried out during the summer revealed that there are in the town three hotels, twenty public houses, six restaurants, seven homes and hospitals, two snack bars, six factory canteens, four fish and chip saloons, and three school canteens.

Food wrappings, personal cleanliness and flies are being constantly watched in all food premises, and the use of newspaper is discouraged in any circumstances.

Fourteen condemnation certificates were issued which included the following foods:-

238 packets of mallow biscuits.
 9½ lbs cocoanut mallow biscuits.
 36 lbs pork sausages.
 12 lbs beef sausages.
 12 tins various foods.

MEAT INSPECTION

Proposals for modernising the existing slaughterhouse submitted by the owner were found to comply with the requirements of the Slaughterhouse Act 1958. The matter is now being considered by the County Planning Authority.

No case of cysticercus bovis was found during the year.

The following animals were slaughtered :-

	Cattle	Calves	Sheep & Lambs	Pigs
	476	3	712	1444
<u>CARCASES INSPECTED AND CONDEMNED</u>				
<u>INSPECTED</u>	476	3	712	1444

TUBERCULOSIS ONLY

Whole carcasses condemned	-	-	-	-
Carcases in which some organ or part condemned	48	-	-	1
Percentage of number inspected affected with tuberculosis	10.08%	-	-	0.007%

ALL DISEASES EXCEPT TUBERCULOSIS

Whole carcasses condemned	-	-	-	-
Carcases in which some organ or part condemned	78	-	-	5
Percentage of number inspected affected with diseases other than tuberculosis	16.39%	-	-	0.034%

AGRICULTURE ACT 1956.

Agricultural properties in the district were inspected and in two cases improved toilet facilities were requested and installed. Gang labour employed on fruit picking was supplied with moveable conveniences. Washing facilities however which appear to be an essential and necessary addition to conveniences, particularly for fruit pickers, could not be requested by this authority's officers as the Minister reserves the right of enforcing such provisions to himself.

REPORT OF THE MANAGER, WATER DEPARTMENT

WATER SUPPLY

The average daily consumption was 189,836 gallons as compared with 178,551 gallons in the previous year. The average daily pumping hours increased slightly from 18.0 hours to 18.3 hours.

The supply is derived from two deep bores, each 465 feet deep. Each pump is installed at approximately 300 feet below ground level. No restrictions on its use took place during the year.

A yield test was taken during the year on both bore-holes. During this seven day test period a maximum yield of 300,000 gallons per day was abstracted from both bores. (The test took place during February 1961).

The highest daily consumption was 249,000 gallons on June 3rd 1960.

Total yearly consumption	69,480,100 gallons
Amount of increase over preceeding year	4,308,600 " or 6%
1948/49 Total yearly consumption ending March	54,381,800 "
1951/52 " " " " "	51,528,300 "
1956/57 " " " " "	64,969,000 "
1957/58 " " " " "	61,527,600 "
1958/59 " " " " "	63,475,200 "
1959/60 " " " " "	65,171,500 "
1960/61 " " " " "	69,480,100 "
Percentage of increase last 10 years -	25.8%
" " " " 5 " -	6.5%
Total yearly domestic water used	51,824,100 "
" " industrial " "	17,656,000 "
Total number of metered supplies	146
Average daily consumption	189,836 "
Average gallons per head per day (less industrial)	20.2 "
Average daily gallons used by industry	48,240 "
Average daily pumping hours.	18.3

NEW CONNECTIONS AND MAINS EXTENSIONS

THE MAINS AND EXTENSIONS

NUMBER OF SAMPLES TAKEN

HEADWORKS

16.

I have the honour to be,

Your obedient Servant,

A. B. Guild.

CERTIFICATE OF ANALYSIS OF WATER

Cert. No. 127. L.

9th November, 1959.

Lab. No. 9299/W.

Sample received 30th September 1959 from East Dereham U.D.C.

Marked No.1 Bore, Waterworks.

Appearance when received Clear; small amount brown deposit.

Nature of Deposit Iron compounds.

Colour Nil Odour Nil

Reaction neutral pH 7.2 Taste Satisfactory.

RESULTS OF CHEMICAL ANALYSIS IN PARTS PER MILLION

<u>Ammoniacal nitrogen</u>	negligible trace	<u>Hardness as CaCo3</u>	
<u>Albuminoid nitrogen</u>	negligible trace	<u>Total</u>	265
<u>Nitrate nitrogen</u>	0.5	<u>Carbonate (Temporary)</u>	245
<u>Nitrite nitrogen</u>	nil	<u>Non-carbonate (permanent)</u>	25
<u>Chlorine as chlorides</u>	30	<u>Alkalinity as CaCo3</u>	245
<u>Oxygen absorbed (4hr. 27°C.)</u>	0.5	<u>Free carbon dioxide</u>	28
<u>Sulphur as So4</u>	25	<u>Total solids (at 180°C.)</u>	355
<u>Fluorine as F</u>	1.2	<u>Iron (total)</u>	0.13
<u>Silica as SiO2</u>	10	<u>Metals in solution,</u>	
		<u>other than iron</u>	nil

OPINION

This water is of very good organic quality and there is no chemical evidence of pollution. The total hardness approximates to 19° Clark, almost all of this being temporary. The reaction is slightly on the alkaline side of neutrality and the free carbon dioxide is moderately low so that the water would not be expected to have any serious corrosive action on metals. Apart from a trace of iron other metals such as lead and copper are absent. The fluorine content is 1.2 parts per million which is unusually high for an East Anglian water. The optimum fluorine content of a drinking water is usually taken as 1 p.p.m. In our opinion the water is very suitable for drinking and general domestic use.

for Lincolne Sutton & Wood Ltd.

(signed) Eric C. Wood.

44
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